THE DIGITAL FAT TESTER (DFT)

The Digital Fat Tester (DFT) is a machine that provides instant, transparent, and accurate quality measurements for milk sold to dairy processors. It allows producers to get a premium for selling high quality milk, and ensures that processors get the quality they need to satisfy customer demand. Combined with locally available inputs for increasing the quality of milk, collection centers that are closer to home, and training on how to improve their milk production, DFTs have given the dairy sector in Bangladesh the market-based solution it needed to raise the incomes of poor and small scale milk producers, ethical milk collectors, and dairy companies. DFTs are building trust in the system, and are scaling up to reach a large percentage of the sector.

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WHAT IS DFT AND WHY IT IS A GOOD SYSTEM?

Digital Fat Testing (DFT) is a milk testing machine which measures automatically measures milk contents like fat, water, lactose, protein. It does not use any chemicals for testing and no scientific or chemical knowledge is required to operate it. Even someone with little education can operate it after a short training. Other advantages are lower testing time, easy sample preparation, elimination of operator error, and easy operation. Combine this DFT machine with tools for transparency, such as a printer, weight machine and display—and it becomes a smart system, which not only measures the milk contents but also displays the information, stores it on a smart card, and prints the information in a slip to provide the dairy farmers.

All the information is stored in a smart card as future reference and analysis. Additionally this DFT collection points play the role of an information hub where farmers can take the information regarding quality milk production, rearing and animal health.

BENEFITS OF THE DFT SYSTEM

Good quality milk and profit from it depends mostly on improved feed, breed, cowshed management, health management, and the milk collection system, but addressing all those factors is challenging unless there are clear market incentives and access to information for everyone in the system. The DFT systems give every stakeholder an opportunity to access transparent information and gain different advantages from it. The following are the key benefits of the DFT system that SDVC and this study have learned.

1 **Ensures Quality Milk:** Above all, consumers demand high quality milk. The DFT system creates 2 checkpoints to ensure that milk is of highest quality—and that farmers are getting paid for better quality.

Producer → Collection Center (Quality Check) → Chilling Plant (Quality Check) → Processing Plant

2 **Reduces time spent in Milk Collection, Testing and Bill Preparation:** Testing with the DFT is nearly four times faster for the milk collector, farmers and processor than the Gerber method it replaces. Because of the digital data dashboards, the DFT system also reduces the time chilling plants and collection points spend preparing payments and verifying accounts. Bill processing is now 240 times faster.

JUST A FEW IMPACTS THAT DFTS HAVE HAD SO FAR ARE

- *Increase Farmers' Incomes by up to 90% by providing an individual premium for quality milk.*
- *Improved the quality of milk in the market by introducing 2 quality control steps.*
- *Made processing time for milk collection nearly 4 times faster, and made billing 240 times faster.*
- *Given women access to markets because products and sales opportunities are now closer to home.*
- *Increased the use of data in training and market decision-making by providing transparent metrics and online dashboards to analyse trends.*

DFTs are revolutionizing the dairy sector in Bangladesh, as BRAC and other private sector partners are now adopting them across their entire operations. By 2017, it is estimated that DFTs will cover **30%** of the formal dairy sector in Bangladesh, reaching **55000** small scale producers.

INTRODUCTION OF DFT TECHNOLOGY

THE GAME CHANGER IN BANGLADESH DAIRY SECTOR

CARE Bangladesh started the Strengthening the Dairy Value Chain I (SDVC-I) project in 2007 and began monitoring milk prices in different steps of the value chain. The project found a huge price difference between what milk collectors received from the chilling plant and what they were paying the milk producers. Using this data, in 2012 the project launched a pilot study with 2,400 farmers using a basic digital tester to see if better testing and transparency could raise producer incomes.

The results were extremely promising. 94 percent of farmers received a higher prices for their milk. Not only did producers benefit from improved income, but so did the processing companies. Getting prices based on individual quality gave producers incentive to improve the quality of their milk. Even producers who had been doctoring their milk began to see the financial benefits of better practices, and started using improved animal feeding and management techniques. The evidence was strong enough for CARE to show the approach to different formal milk processors, and BRAC was convinced to partner with CARE on DFT facilitated milk collection points in the project working area.

3 *Guarantees Transparency & Accountability in Payment and Keeping Accounts: The DFT system makes payment easy for the producers, CPMs and the milk processors. In DFT system, the producers are paid weekly based on their milk fat recorded in the DFT machine and sales slip. Producers can compare weekly payments to their own records, so the financial dealings are transparent and accurate.*

4 *Allows Online Real-time Information Management: The DFT machine automatically generates data and syncs a computer to generate different reports. The overall data are accessible through online information management dashboard. As a result, milk processors can see the daily milk collection status by region, collection point and chilling plant.*

5 Creates a platform for linking stakeholders: In the DFT system, the Collection Point Manager works as a bridge between the processor and producer, and plays the role in establishing effective linkages among the livestock health worker, artificial insemination worker, input shop owner, feed seller and the producers. Producers seek assistance from the CPM regarding his/her cattle de-worming, vaccination, ways to increase fat percentage in milk. In turn, the CPM refers him/her to contact with the LHW, AIW or other relevant service providers. DFT Collection Points often work as an information hub for the producers towards an effective dairy farming, since all players have a stake in getting higher quality milk.

6 **Reduces Uncertainty:** Producers in SDVC had more consistent milk production, which helps companies plan for inputs from small-scale producers in a way they can't in the less formal market. It also gives producers a consistent price and point of sale for their milk—reducing time spent in marketing.

7 **Creates Easy access for women:** Where other selling option is based in urban markets where women are often unable or unwilling to travel, the DFT system is located in communities, closer to producers' doorsteps. This ensures easy access for women dairy farmers to sell their milk to that DFT collection point.